UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,261	02/10/2006	Harmannus Franciscus, Maria Schoo	0064.25	5706

25871 7590 09/28/2009

SWANSON & BRATSCHUN, L.L.C.
8210 SOUTHPARK TERRACE
LITTLETON, CO 80120

EXAMINER	
HO, ANTHONY	
ART UNIT	PAPER NUMBER
2815	

NOTIFICATION DATE	DELIVERY MODE
09/28/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

efspatents@sbiplaw.com

Office Action Summary	Application No.	Applicant(s)	
	10/561,261	SCHOO ET AL.	
	Examiner	Art Unit	
	ANTHONY HO	2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 May 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *22-35 and 42-47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *22-35 and 42-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This is in response to amendment to application no. 10/561,261 filed on May 26, 2009.

Claims 22-35 and 42-47 are presented for examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 22-35 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang et al, Gallium nitride/conjugated polymer hybrid light emitting diodes: Performance and lifetime, Journal of Applied Physics, Vol. 84, No. 3, 1 August 1998, pp. 1579-1582 in view of Tuschel e al (US PUB 2005/0030545).

In re claims 22, 34, 35 and 47, Zhang et al discloses a detection system having at least one semiconductive electroluminescent active layer, wherein the emission spectrum of the diode exhibits at least two intensity maxima (i.e. see Abstract and Figure 3. Furthermore, biasing voltage determines emission or detection functionality. The intended use or functional language is insufficient to distinguish over applied art) and the active layer comprises at least one electroluminescent organic compound (see Figure 1).

Tuschel et al also discloses a detector in optical communication with an LED (i.e. see Figure 10 and corresponding paragraphs). For example, one of the pixels can be used,

function, or be labeled, as a signal channel and another diode as a separate reference channel (i.e. see Figure 10) (i.e. and other pixels define a "signal channel" or "reference channel").

The advantage is to be able to detect images in semiconductor devices (i.e. paragraph 0004).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the detection system as taught by Zhang et al with a detector in optical communication with an LED as taught by Tuschel et al in order to be able to fabricate high pixel density semiconductor devices and to be able to detect images in semiconductor devices.

The recitation "provides for the simultaneous emission of at least two intensity maxima of different wavelengths of light from the active layer" in the claim specifies an intended use or field of use and is treated as nonlimiting since it has been held that in device claims, intended use must result in a structural difference between the claim invention and the prior art in order to patentably distinguish the claim invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. *In re Casey*, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963). A claim containing a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

Furthermore, the recitation "provides for the simultaneous emission of at least two intensity maxima of different wavelengths of light from the active layer" in the claim is functional language and is treated as nonlimiting since it has been held that in device claims, the device must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997) The absence of a disclosure in a prior art reference relating to function did not defeat the Board's finding of anticipation of claimed apparatus because the limitations at issue were found to be inherent in the prior art reference. See MPEP 2114.

In re claims 23, 24, 27 and 28, Zhang et al discloses using one of the listed materials in the semiconductor device (i.e. Figure 1).

In re claims 25 and 26, the recitation "wherein the at least two different intensity maxima of the different wavelengths are emitted by a first and a second electroluminescent compound" in the claim specifies an intended use or field of use and is treated as nonlimiting since it has been held that in device claims, intended use must result in a structural difference between the claim invention and the prior art in order to patentably distinguish the claim invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. *In re Casey*, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963). A claim containing a recitation with respect to the manner in which a claimed apparatus is intended to be

employed does not differentiate the claimed apparatus from a prior art apparatus if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

Furthermore, the recitation "wherein the at least two different intensity maxima of the different wavelengths are emitted by a first and a second electroluminescent compound" in the claim is functional language and is treated as nonlimiting since it has been held that in device claims, the device must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997) The absence of a disclosure in a prior art reference relating to function did not defeat the Board's finding of anticipation of claimed apparatus because the limitations at issue were found to be inherent in the prior art reference. See MPEP 2114.

The recitation "wherein the first compound has a maximum in the emission spectrum at a different wavelength than the second compound" is an inherent property since Yu et al discloses using the same materials as in the present application.

In re claims 29-33, Zhang et al shows the emission of at least two intensity maxima and their differences between them (i.e. Figure 3).

Claims 44-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang et al, Gallium nitride/conjugated polymer hybrid light emitting diodes: Performance and lifetime, Journal of Applied Physics, Vol. 84, No. 3, 1 August 1998, pp.

1579-1582 in view of Tuschel e al (US PUB 2005/0030545) as applied to claim 22 above, and further in view of Dickert et al, "Solvatochromic betaine dyes as optochemical sensor materials: detection of polar and non-polar vapors," *Sensors and Actuators B*, 70, (2000), 263-269.

Dickert et al discloses a suitable coating for polar and non-polar vapors in a sensor device (i.e. Introduction).

The advantage is to optimize the sensor behavior of the sensor device (i.e. Abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the detection system as taught by Zhang et al as modified by Tuschel et al with a suitable coating for polar and non-polar vapors in a sensor device as taught by Dickert et al in order to optimize the sensor behavior of the sensor device.

Response to Arguments

Applicant's arguments with respect to claim 22 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY HO whose telephone number is (571)270-1432. The examiner can normally be reached on M-F: 9:30AM-5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Parker can be reached on 571-272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. H./
Examiner, Art Unit 2815
/Kenneth A Parker/
Supervisory Patent Examiner, Art Unit 2815